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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/636,000	08/09/2000	Stephen P. Pope	20669-000300US	5413
23363	7590	11/09/2005	EXAMINER	
CHRISTIE, PARKER & HALE, LLP			BURD, KEVIN MICHAEL	
PO BOX 7068			ART UNIT	
PASADENA, CA 91109-7068			PAPER NUMBER	
			2631	

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/636,000

Applicant(s)

POPE, STEPHEN P.

Examiner

Kevin M. Burd

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21 is/are allowed.
- 6) ☒ Claim(s) 22-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. This office action, in response to the amendment filed 8/22/2005, is a final office action.

### ***Response to Arguments***

2. In view of the papers filed 8/22/2005, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by addition of inventors Aki Shohara, Yue Chen and Bryan Chase.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected.

3. The previous rejections of Applicant's claim for domestic priority, rejections of claims under 35 USC 102(f) and rejections of the claims under 35 USC 101 are withdrawn.
4. Applicant's arguments, see pages 17-19, filed 8/22/2005, with respect to claims 1-5, 7, 11 and 12 have been fully considered and are persuasive. The rejections of these claims have been withdrawn.
5. Applicant has added new claims 22-30. Applicant's arguments filed 8/22/2005 regarding claims 22-30 have been fully considered but they are not persuasive for the reasons stated previously. Cesari discloses generating a branch metric according to an

Art Unit: 2631

The combination of Cesari and Beat disclose using a Grey code for computing branch metric parameters. Beat discloses a method of changing one binary sequence to another binary sequence by changing only one bit of that sequence using a Gray code (column 2, lines 22-33). This results from adding or subtracting one bit from a prior state of the branch metric to compute the next state. By changing states of the binary sequence, by altering only one bit on any one transition, components of the circuit are eliminated and the effective speed of the circuit is increased (column 2, lines 28-33).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cesari (US 5,844,947) in view of Beat (US 5,687,352).

Regarding claims 22-30, Cesari discloses a Viterbi decoder that calculates the most likely sequence to have been transmitted through a channel (column 4, lines 15-21). A plurality of data sources (branch metrics, prior states) relating to state transition probabilities is used as shown in figure 2. The surviving branch metric of the most likely transition is stored forming the trellis of figure 2 (column 3, lines 64-66). The autocorrelation terms of a group of branch metrics are stored in registers (column 8, lines 63-66) and the branch metrics are calculated according to these terms (column 9,

Art Unit: 2631

lines 13-16). The process is repeated for all symbol instants represented by the received data and traceback operations are also used (column 9, lines 21-25).

Cesari does not disclose computing the branch metric parameter calculations with a Gray code. Beat discloses a method of changing one binary sequence to another binary sequence by changing only one bit of that sequence using a Gray code (column 2, lines 22-33). By changing states of the binary sequence by changing only one bit on any one transition, components of the circuit are eliminated and the effective speed of the circuit is increased (column 2, lines 28-33). For this reason, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the method of changing transitions of Beat into the detector of Cesari.

#### ***Allowable Subject Matter***

9. Claims 1-21 are allowed.

#### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Huff (US 5,974,091) discloses estimated values of Grey encoded bits are generated for all trellis states by differentially decoding successive values (column 30, lines 21-25).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2631

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Burd  
11/7/2005

  
**KEVIN BURD**  
**PRIMARY EXAMINER**